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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/877,128	06/11/2001	Sang Seok Lee	049128-5010	2063

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MORGAN LEWIS & BOCKIUS LLP
1111 PENNSYLVANIA AVENUE NW
WASHINGTON, DC 20004

EXAMINER

KENNEDY, JENNIFER M

ART UNIT	PAPER NUMBER
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2812

DATE MAILED: 03/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/877,128

Applicant(s)

LEE, SANG SEOK 

Examiner

Jennifer M. Kennedy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 January 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 4, 5 and 8-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 4-5, 8-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Request for Continued Examination

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on January 20, 2004 has been entered.

Currently claims 1, 4-5, and 8-10 are pending in the application.

Claim Objections

Claim 1 is objected to because of the following informalities: The examiner suggests removing the word —material—after “liquid crystal” in line 11 of claim 1 so as to agree with the recitation of “liquid crystal” in line 10 of the same claim, and the dependent claims thereafter. Appropriate correction is required.

Claim 5 is objected to because of the following informalities: A typographical error occurs in line 1 of the claim. The examiner suggest inserting —of—between “method” and “fabricating”

Claim 5 is objected to because of the following informalities: A typographical error occurs in line 11 of the claim. The last line of the claim reads “joining the.” The examiner believes applicants have struck through the words “two plates” in error. The

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examiner has examined the claims according to this assumption. Appropriate correction is required.

Claim 10 is objected to because of the following informalities: "the step of joining the upper plate with the lower plate" should be replaced with --joining the two plates-- for proper antecedent basis. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 4, and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Von Gutfeld (U.S. Patent No. 6,219,126).

In re claim 1, Von Gutfeld discloses a liquid crystal display device, comprising:

two plates (1a, 1b), one plate (1a) of the two plates having a protrusion (3) thereon for defining a picture displaying area (area interior of protrusion, filled with liquid crystal);

a sealant (2b, see column 4, lines 10-20) formed along edges of the other plate (1b) of the two plates, a position of the sealant being outside of the protrusion (see Figure 1 and 2);

a liquid crystal evenly dispersed into the picture displaying area such that the protrusion completely contains the liquid crystal material in the picture displaying area (see column 4, lines 2-5, see Figure 2).

The examiner notes that Figure 2 shows that the liquid crystal is evenly dispersed in the picture displaying area. Further, the examiner notes that the liquid crystal material is a liquid and, therefore, it would fill the total volume that it is contained by equally.

The examiner notes that liquid crystals allow for a picture to be displayed. The protrusion defines the area in which the liquid crystal is confined and, therefore, defines the picture display area.

In re claim 4, Von Gutfeld discloses the device wherein the liquid crystal is dispersed using a liquid crystal dispensing method (see column 4, lines 2-10). The examiner notes that claim 4 is a product-by-process claim. "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (citations omitted). See MPEP 2113. Further, the examiner notes that any dispensing method that dispenses liquid crystal could be considered a liquid crystal dispensing method.

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In re claim 8, Von Gutfeld further discloses the device wherein the protrusion is formed from any one of metal, indium-tin-oxide and organic insulating film (see column 5, lines 20-30). The examiner notes that silicone rubber is an organic insulating film.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5 and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Von Gutfeld (U.S. Patent No. 6,219,126) in view of Ishihara et al. (U.S. Patent No. 5,263,888).

Von Gutfeld discloses the method of fabricating a liquid crystal display device comprising the steps of:

providing an two plates (1a, 1b) , one plate (1a) of the two plates having a protrusion (3) thereon for defining a picture display area (area interior of protrusion, filled with liquid crystal);

forming the sealant (2b, see column 4, lines 10-20) on the other one (1b)of the two plates, a position of the sealant being outside of the protrusion (see Figures 1 and 2);

forming a liquid crystal layer (see column 4, lines 2-5) onto the picture display area; and

joining the two plates (see column 4, lines 20-25, and Figure 2).

The examiner notes that liquid crystals allow for a picture to be displayed. The protrusion defines the area in which the liquid crystal is confined and, therefore, defines the picture display area.

Von Gutfeld does not explicitly disclose the method of dispensing the liquid crystal on the picture display area evenly by a liquid crystal dispensing method, but does disclose that one would want to dispense of it by the method of Ishihara et al. (U.S. Patent No. 5,263,88). Ishihara discloses the method of dispensing the liquid crystal evenly by a liquid crystal dispensing method (see item 2 of Figure 3(a), and column 4, lines 25-40). It would have been obvious to one of ordinary skill in the art at the time the invention was made to since Von Gutfeld expressly states this method could be used and because the method of Ishihara ensures that maximum uniformity is achieved for the gap between the substrates and allows for a high-quality display panel (see column 3, lines 40-50).

In re claim 9, Von Gutfeld discloses the method wherein the protrusion is formed from any one of metal, indium-tin-oxide and organic insulating film (see column 5, lines 20-30). The examiner notes that silicone rubber is an organic insulating film.

In re claim 10, Von Gutfeld discloses the method wherein the liquid crystal remains completely contained in the picture display area during the step of joining the two plates (see column 4, lines 30-65 and Figures 1 and 2).

Response to Arguments

Applicant's arguments filed November 20, 2003 have been fully considered but they are not persuasive.

Applicant argues that Von Gutfeld admits the difficulty in selecting quantity of the LC material in an LCD panel, and then, recognizes the exiting of excess LC material. The examiner agrees that Von Gutfeld discloses an alternative in the case when accuracy of amount of liquid crystal is a problem it may be preferable to deposit an excess of LC material and then provide a small vent hole. The examiner notes that this does not negate the fact that Von Gutfeld discloses an embodiment in which all of the preselected quantity of liquid crystal dispensed is contained by protrusion (barrier fillet). Von Gutfeld clearly discloses depositing a preselected amount of liquid crystal (see column 4, lines 1-10) and that the vent holes are not required. The examiner maintains that Von Gutfeld discloses an embodiment in which vent holes are not formed, and thus the liquid crystal is completely contained by the protrusion (see column 4, lines 30-35).

"The use of patents as references is not limited to what the patentees describe as their own inventions or to the problems with which they are concerned. They are part of the literature of the art, relevant for all they contain." In re Heck, 699 F.2d 1331, 1332-33, 216 USPQ 1038, 1039 (Fed. Cir. 1983) (quoting In re Lemelson, 397 F.2d 1006, 1009, 158 USPQ 275, 277 (CCPA 1968)). Further the examiner notes that a reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill the art, including nonpreferred embodiments. Merck & Co. v. Biocraft Laboratories, 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975

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(1989). See also *Celeritas Technologies Ltd. v. Rockwell International Corp.*, 150 F.3d 1354, 1361, 47 USPQ2d 1516, 1522-23 (Fed. Cir. 1998). Disclosed examples and preferred embodiments do not constitute a teaching away from a broader disclosure or nonpreferred embodiments. *In re Susi*, 440 F.2d 442, 169 USPQ 423 (CCPA 1971). See MPEP 2123.

Applicant argues that the present invention has the advantage of forming the protrusion of the same material as that of the substrate, thereby simplifying the process. It is noted that the features upon which applicant relies (i.e. forming the protrusion of the same material as that of the substrate) are not recited in the rejected claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). The examiner notes that the applicant claims that the protrusion is made with any one of metal, ITO and an organic insulating film, which Von Gutfeld discloses forming the protrusion of an organic insulating material in lines 20-27 of column 5.

Finally, Applicant also argues that the present invention uses dispensing of the LC material which is distinguished from dropping the material. The examiner notes that Ishihara et al. is relied upon to disclose the method of dispensing the liquid crystal evenly, whereby a microsyringe is utilized to form drops of liquid crystal as a rectangular array pattern of a fixed number of drops arranged at 10 mm intervals, with all the drops being precisely identical in amount (see column 4, lines 30-40). The examiner considers this to clearly be a liquid crystal dispensing method. In response to

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applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer M. Kennedy whose telephone number is (571) 272-1672. The examiner can normally be reached on Mon.-Fri. 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Niebling can be reached on (571) 272-1679. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jennifer M. Kennedy
Patent Examiner
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